

# Rennbay Injector Seal Kit Installation

This write-up is based on installation of the kit in a 1986 Porsche 944 Turbo. The usual disclaimers apply as to individual cars that may vary. Please follow all safety precautions regarding working on the engine, fuel system and the engine compartment.

A number of preparatory steps are necessary to install the kit. To gain proper access to the injectors it is not absolutely necessary to disconnect the fuel lines from the fuel rail. However, I found it much easier to work with the lines disconnected from the rail. This way it was easy to take the rail away from the car and remove the injectors from the rail.

## Removing the fuel rail

It will be necessary to disconnect the fuel lines before removing the fuel rail

Depressurize the fuel system. There are 3 possible ways of doing this Let the car sit for a few days until the fuel system depressurizes.

Start the engine and remove the fuel pump fuse at #34 on the fuse and relay board. The engine will stop for lack of fuel in a few seconds.

Remove the fuel pump fuse at #34 on the fuse and relay board and then attempt to start the engine. The engine may or may not start. Disconnect the negative lead from the battery.

Next, stuff some rags under the fuel pressure regulator and the fuel damper to catch any remaining fuel in the lines. Then, unscrew the hose clamp at the fuel pressure regulator which holds the fuel return line and pull off the fuel return line. Next, unscrew the

fuel line from the fuel pump using a 24 mm wrench on the fuel damper body nut and a 19 mm wrench on the fuel line nut. Be prepared to use some force as this nut is very tight to prevent fuel leakage. If your car is equipped with cruise control, you must also remove the cruise control line from the intake manifold and the control unit. Pull the vacuum lines from both the damper and pressure regulator.



Then attach the fuel lines out of the way and remove the fuel rail plastic covering. It is held in place with three plastic connectors.

Using a small flat tip screwdriver, disengage the wire clips on the fuel injector electrical connectors plugs and disconnect the plugs. Move the fuel injector wiring harness out of the way.

The fuel rail is held by four (4) 10 mm bolts. Two are bolted to the cam cover, and two are bolted to the intake manifold itself. Using a 10 mm socket and an extension unbolt the 4 bolts. Unclip the spark plug wires from the rail and pull them from the spark plugs. You can then pull out the fuel rail. Be careful not to break the fuel injector plastic tips as you are pulling. Have rags ready to collect escaping fuel from the rail. Drain as much fuel as possible from the rail and store away from heat and sparks.



Next, to remove the individual injectors from the rail you must take off the metal retaining clip at the fuel rail and pull out the injector.



The next step is to remove the plastic injector cap the injection end rubber seal, the injection end plastic ring, and the rail end rubber seal. The easiest way to remove the plastic end cap is to slice it open with needle nose pliers pulling from the rim. Once the end cap is off the rubber seal and plastic ring are easy to pull. Clean the outside with injector cleaner liquid After cleaning the outside, you may want to spray some injector cleaner inside or have your injectors professionally cleaned.

Next, put the seals on. Begin by placing the injection end plastic ring followed by the rubber seal. Next look at the injection end. You will notice a groove circling the end. You

will have to snap the plastic end cap on such that it will completely cover the groove. Insert the cap making sure that the needle is lined up with the hole at the top of the cap. You will feel a first "click" as the end cap engages the top portion of the groove. Then press the end cap against a piece of wood to achieve the second final "click" as the cap engages and passes the bottom portion of the groove. Finally, put on the rail end rubber seal. The top still has the old seals and plastic end cap, while the bottom one has the new seals and end cap on.

Reinstall everything making sure that you have a proper seal everywhere. Once the fuel rail and the fuel lines are all nice and tight, you should test fuel flow before you turn on the engine. First, reconnect the battery negative. Then insert the fuel pump fuse at #34 which you removed to depressurize the system. Next, remove the DME relay and jumper terminals 30 and 87b. This will activate your fuel pump and feed fuel to the injectors. As the fuel flows to the injectors inspect all connections for leaks. If there are any leaks, remove the jumper and tighten the appropriate connections until there are no more leaks. Put back the DME relay, start the car and again inspect for leaks.

